

Lecture Module - Data Acquisition

ME3023 - Measurements in Mechanical Systems

Mechanical Engineering

Tennessee Technological University

Topic 2 - DAQ Hardware and Applications

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- Signal Types and DAQ
- Available Hardware
- Software Integration
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Signal Types and DAQ

Single-Ended Signals

The **signal** is measured as a voltage between a *single* conductor and the **ground** which must be carried on a separate conductor or wire.

Double-Ended (Differential) Signals

The **signal** is measured as the difference between two voltages (*double*) carried on separate conductors, or wires.

Signal Types and DAQ

Single-Ended Signals

Pros:

Cons:

Double-Ended Signals

Pros:

Cons:

Available Hardware

- National Instruments
- Measurement Computing
- dSPACE
- Arduino or other

Software Integration

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- Measurement Computing
- dSPACE
- Arduino or other

Software Integration

some reference

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